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**A guide for GPs**

**Diagnosing Addison’s:**

In pregnancy, Addison’s symptoms may be mistaken for hyperemesis and chloasma. Pregnancy, oral contraceptive or HRT usage may interfere with interpretation of serum cortisol (difficult due to elevation of background CBG and delayed hepatic clearance).

Exogenous steroid usage for conditions such as mouth ulcers has been documented to mask underlying adrenal insufficiency.

**WORST OUTCOMES IF MISSED**

Untreated Addison’s disease is universally fatal and the patient may die quite rapidly from adrenal crisis.

In adrenal crisis, hypovolaemic shock, cardiac arrest, stroke or other circulatory complications can occur even in young, fit patients; complications from hypoxia may lead the patient permanently disabled. Children with adrenal crisis are particularly susceptible to hypoglycaemia, which can cause permanent brain damage if not quickly reversed.

Where the patient has severe hypoaesthesia, rapid or overcorrection can lead to cerebral oedema or central pontine myelolysis.

**EPIDEMIOLOGY**

Autoimmune Addison’s disease affects about one in 14,000 individuals, with an upper estimate of around 9,000 diagnosed cases in the UK and 640 in the Republic of Ireland. The incidence is 4–6 per million, suggesting perhaps 320 new diagnoses per annum for the UK and 23 for the Republic of Ireland.

Diagnosis can occur at any age, from 5 to 80. Almost half of all diagnoses occur outside the most common age of onset (30–50 years).

**KEY QUESTIONS FOR THE GP**

1. Does this patient have postural hypertension?
2. Is this patient losing weight without trying?
3. Does this patient have low/borderline blood sodium?
4. Does this patient have unusual salty taste, soy sauce or liquorice cravings, or increased thirst and urination?
5. Does this patient have appropriate pigmentation; has there been a change in skin colour?

**GP FOLLOW-UP**

Thorough patient education and training is required to ensure that:

1. All patients know how to adjust their replacement steroid medication for illness, injury or strenuous exercise
2. The patient and a partner are competent to administer an IM injection of 100mg hydrocortisone in emergencies and are fully supplied with IM needles, syringes and injectable hydrocortisone sodium phosphate 100mg (liquid Efcortesol) or hydrocortisone sodium succinate 100mg (powdered Solu-Cortef plus 2mL water vial)
3. The patient’s steroid-dependent condition has been registered with their ambulance trust for priority treatment
4. The ADSHG emergency and surgical guidelines are scanned into patient’s medical notes
5. The patient understands the need to wear a medical bracelet such as Med-Tag and to carry spare medication with them at all times.

**FURTHER READING**


http://www.clin-eh.org/pubmed/25098772


Clinical Knowledge Summaries, Addison’s disease.

http://www.ckshtt.uk/addisons_disease


Addison’s disease (hypoadrenalism, or adrenal insufficiency) is a rare, potentially fatal condition where the adrenal glands cease to function. Life-long, daily treatment with replacement steroid hormones is required.

With the right balance of daily medication, people with Addison’s can expect to have a normal life span and to lead full and productive lives. It is not unknown for people with Addison’s to live into their 90s. The most famous Addison’s patient was US President John F Kennedy.
Diagnosing Addison’s: A guide for GPs

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Symptoms of adrenal crisis

- Bradycardia
- Hypothermia
- Metabolic acidosis
- Altered mental state
- Hypoglycaemia

Symptoms at diagnosis

- Fatigue
- Weight loss
- Mosquito bites

GP role in urgent admissions

- Obtain a history
- Assess physical examination
- Consider Addison’s disease

GP role in patient screening

- Check for clinical signs
- Consider Addison’s disease

Primary care investigations

- 1. Electrolytes (low Na, high K)
- 2. Electrolytes (borderline to normal)

Addison’s symptoms at diagnosis

- Autoimmune Addison’s disease
- Non-autoimmune Addison’s disease

The differential diagnosis

1. Autoimmune (primary) adrenal disease
   - Predominant signs in early stage are usually those of mineralocorticoid deficiency (potentially diuretic, increased thirst and urination, salt cravings).

2. Pituitary disease
   - Signs of glucocorticoid deficiency will predominate, notably anorexia, weight loss and muscle weakness.

3. Adrenal destruction triggered by disseminated infections
   - More common in regions such as the Indian subcontinent and Latin America, typically caused by tuberculosis, fungal infection or histoplasmosis.

Potential pitfalls

- Random (unstimulated) serum cortisol has a low sensitivity for adrenal insufficiency, especially where the patient is in the early stages of adrenal disease.

ASSOCIATED CONDITIONS

- Autoimmune endocrine: Addison’s is often associated with conditions such as:
  - Hypothyroidism
  - Asthma
  - Vitiligo
  - Coeliac disease

Adrenal failure may be the first autoimmune condition to manifest; pre-existing associated conditions are more likely in women. In established diabetes, a marked reduction in the insulin requirement can be a warning sign of developing hypoadrenalism.

Commencing thyroid replacement in early stage adrenal failure may precipitate hypoadrenal syndrome/crisis, as thyroid hormones increase the metabolic rate and breakdown of thyroid hormones. Elevated TSH in isolation may be an indicator of hypoadrenalism in all patient with extreme fatigue but without the typical features of hypothyroidism, and may return to normal with steroid replacement.